

### **REMARKS**

Claims 11, 12, 14, 15, and 17 are now pending in the application. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

### **DRAWINGS**

The Examiner considers the drawings acceptable subject to the correction of the informalities indicated on the "Notice of Draftsperson's Patent Drawing Review" also received with the outstanding Final Office Action. The Draftsperson indicated that the drawings contain poor line quality. Applicants have filed herewith drawings that address the informalities cited by the Draftsperson. Therefore, the objection to the drawings is moot.

### **REJECTION UNDER 35 U.S.C. § 112**

Claims 11, 12, 14, 15, and 17 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonable convey to one skilled in the art that the inventors, at the time the invention was filed, had possession of the claimed invention. This rejection is respectfully traversed.

The Examiner alleges that, "the molecule recognizing film absorbing aromatic molecules to change in electric impedance in connection with absorbing aromatic molecules inside the molecule recognizing film" as claimed in claim 11, has no clear support in the specification and claims as originally filed. Applicants respectfully

assert, however, that the claimed molecule recognizing film is supported on page 8, lines 23-27. Moreover, support can be found in the disclosure at page 12, line 12 to page 13, line 2. As such, Applicants respectfully assert that, "the molecule recognizing film absorbing aromatic molecules to change an electric resistance in connection with a change in volume of the molecule recognizing film by absorbing aromatic molecules inside the molecule recognizing film" as claimed in claim 11 is fully supported in the specification as filed.

Claims 11, 12, 14, 15, and 17 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point and distinctly claim the subject matter which Applicant regards as the invention. This rejection is respectfully traversed.

The Examiner alleges that the term "absorbing" of claim 11 is vague and indefinite because it is unclear what is being absorbed. Applicant respectfully asserts that "aromatic molecules" are being absorbed, as claimed. Moreover, claim 11 has been amended to call for a change in resistance to occur due to a change in volume of the molecule recognizing film by these absorbing aromatic molecules inside the molecule recognizing film. Applicant respectfully asserts, therefore, that claim 11 is clear and definite. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 112 are respectfully requested.

**REJECTION UNDER 35 U.S.C. § 102**

Claim 11 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Cozzette et al (U.S. Pat. No. 5,200,051). This rejection is respectfully traversed.

The Examiner alleges that Cozzette discloses a sensor device (biosensor) that comprises an electrode and an organic film (semipermeable film), which is a polymer. Furthermore, the Examiner alleges that the organic film supports bioactive molecules that constitute the principal means for converting the particular analytes in a given analytical sample into detectable and/or quantitatively measurable species.

Claim 11 has been amended to call for a molecule recognizing film that absorbs aromatic molecules to change an electrical resistance in connection with a change in volume of the molecule recognizing film by absorbing the aromatic molecules inside the molecule recognizing film. Cozzette does not anticipate such a sensor device. The Examiner alleges that Cozzette discloses an organic film that acts like a semipermeable film. This semipermeable film does not undergo a change in electric resistance due to the a change in volume by absorbing aromatic molecules, as claimed. The semipermeable film disclosed by Cozzette, rather, selectively allows molecules to permeate through the film to a bioactive layer. Upon contact with the bioactive layer, the molecules then undergo a chemical oxidation or reduction in order to perform the detectable and/or quantitative analysis. As such, there is no change in electrical resistance nor a change in volume of the molecule recognizing film as claimed, and therefore, Applicants respectfully submit that Cozzette does not anticipate the claimed

sensor. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 12, 14, 15, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cozzette et al (U.S. Pat. No. 5,200,051). This rejection is respectfully traversed.

Claims 12, 14, 15, and 17 are dependent on independent claim 11, addressed above. Claims 12, 14, 15, and 17 should be in condition for allowance for at least the same reasons. Moreover, Applicant respectfully asserts that Cozzette contains no suggestion or motivation to utilize a molecule recognizing film that absorbs aromatic molecules to change an electrical resistance in connection with a change in volume of the molecule recognizing film by absorbing the aromatic molecules inside the molecule recognizing film. Therefore, Applicants respectfully assert that the claimed sensor is not obvious.

Claims 11, 12, 14, 15, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Heller et al (U.S. Pat. No. 5,605,662) in view of Johnson (U.S. Pat. No. 4,216,245). This rejection is respectfully traversed.

The Examiner alleges that it would have be obvious to one of ordinary skill in the art to modify the device of Heller by including the technique of printing the organic thin film onto the electrode as taught by Johnson for the well known advantage of providing a rapid method of applying the organic film to the electrode in a manner which prevents interaction.

Claim 11 calls for the molecule recognizing film to absorb aromatic molecules to change an electric resistance of the molecule recognizing film. This change in electric resistance is accomplished in connection with a change in volume of the molecule recognizing film by absorbing the aromatic molecules inside the molecule recognizing film. In contrast, Heller teaches a device that is able to actively carry out multi-step, combinatorial, and multiplex reactions at any of its micro-locations. Heller is completely silent with respect to changing an electrical resistance of a molecule recognizing film and, furthermore, with respect to a change in volume of the molecule recognizing film. As such, Heller contains no suggestion or motivation to use a sensor that comprises a molecule recognizing film that undergoes a change in electrical resistance due to the absorption of an aromatic molecule, as claimed. As such, the proposed combination of Heller and Johnson does not yield the claimed invention and therefore, is improper. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

### CONCLUSION

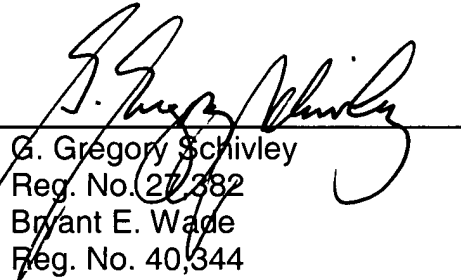
It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: \_\_\_\_\_

April 14, 2003

By: \_\_\_\_\_

  
G. Gregory Schivley  
Reg. No. 27,382  
Bryant E. Wade  
Reg. No. 40,344

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

GGG/BEW/JAH

## **ATTACHMENT FOR CLAIM AMENDMENTS**

The following is a marked up version of each amended claim in which underlines indicates insertions and brackets indicate deletions.

11. (Twice Amended) A sensor device comprising:

a circuit having electrodes, wherein at least one of the electrodes comprises a molecule recognizing film formed on the electrodes, the molecule recognizing film absorbing aromatic molecules to change [in] an electrical [impedance] resistance in connection with a change in volume of the molecule recognizing film by absorbing the aromatic molecules inside the molecule recognizing film; and

a transducing element to transduce the change in the electrical [impedance] resistance of the molecule recognizing film into electric signals, the transducing element comprising a thin-film transistor.